Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for the manufacture of ethylene oxide through the epoxidation of ethylene in a reactor having at least one inlet for the introduction of raw materials and additives and at least one outlet for the discharge of ethylene oxide, which process comprises:

A) reacting a feed comprising ethylene, oxygen, and optionally ethane in the presence of a catalyst, said catalyst comprising a catalytically-effective amount of silver on an inert, refractory solid support and at least one efficiency-enhancing salt of a member of a redox-half reaction pair;

B) adding to said feed a two-component gas-phase promoter comprising at least one chlorine-containing component selected from a group consisting of ethyl chloride, methyl chloride, vinyl chloride and ethylene dichloride; and at least one nitrogen-containing component selected from a group consisting of nitric oxide and other compounds capable of forming under reaction conditions at least one gaseous efficiency-enhancing member of a redox-half reaction pair comprising NO, NO2, N2O3 or N2O4;

(C) [[producing with such catalyst more than about 1.1 kilo metric tons per cubic meter of catalyst;]]

[D)] after producing with such catalyst more than about 1.1 kilo metric tons of ethylene oxide per cubic meter of catalyst, adjusting the amount of each component of said gas-phase promoter to maintain the ratio of N* to Z* in the range of from 0.4 to 1.0, wherein, N* is defined as the nitric oxide equivalent, in units of ppmv, having an numerical value from 1 to 20 ppmv; wherein if nitric oxide is the only gaseous nitrogen-containing component present in the inlet, N* is the inlet nitric oxide concentration in ppmv multiplied by the inlet pressure in kilopascals, absolute, divided by 2300kPa, and if one or more other gaseous nitrogen-containing components are used alone or in connection with nitric oxide, the nitric oxide equivalent is the concentration of nitric oxide in ppmv plus the concentration of each of the other gaseous nitrogen-containing components (each corrected for its effectiveness as a promoter as compared to nitric oxide) times the inlet pressure in kilopascals, absolute, divided by 2300kPa; and

$Z^* = \frac{\text{ethyl chloride equivalent (ppmv) x 100 percent}}{\text{ethane equivalent (mol percent) x 100}}$

having an numerical value of 5 to 40 ppmv, wherein if ethyl chloride is the only gaseous chloride-containing component present in the inlet, the ethyl chloride equivalent is the ethyl chloride concentration in ppmv, and if one or more other chlorine-containing components are used alone or in combination with ethyl chloride, the ethyl chloride equivalent is the concentration of ethyl chloride in ppmv plus the concentration of each of the other gaseous chloride-containing components (each corrected for its effectiveness as a promoter as compared to ethyl chloride); and wherein the ethane equivalent is the concentration of ethane in mol percent plus the concentration of each other hydrocarbon effective in removing chloride from the catalyst (each corrected for its effectiveness in removing chloride from the catalyst as compared to ethane); and

E) controlling the temperature of said reactor from 200°C. to 300°C., and the pressure at the inlet of said reactor from 1000 to 2500 kPa (absolute), and the concentration of carbon dioxide at said inlet from 0 to 2 mole percent.

2. (Original) The process of claim 1 wherein said efficiency-enhancing salt is potassium nitrate or rubidium nitrate.

3. (Original) The process of claim 1 wherein said silver is present from 5 to 50 percent by weight of the catalyst.

4. (Original) The process of claim 1 wherein said refractory solid support comprises alpha-alumina.

5. (Original) The process of claim 4 wherein said alpha-alumina support has a morphology comprising interlocking platelets.

6. (Original) The process of claim 1 wherein the temperature of said reactor is controlled from 210°C. to 280°C.

7. (Original) The process of claim 1 wherein the pressure at the inlet of said reactor is controlled from 1800 to 2500 kPa (absolute).